SANTA CRUZ BIOTECHNOLOGY, INC.

Fc ε RIα (H-90): sc-68942

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

IgE Fc Receptor I binds to the Fc region of immunoglobulin ε chain with high affinity, and is responsible for initiating the allergic response. Binding of allergen to receptor-bound IgE leads to cell activation and the release of mediators such as histamines, responsible for the manifestations of allergy. IgE Fc Receptor I also induces the secretion of important lymphokines, effectors of the hypersensitivity response. Receptor I is a tetramer of a heavily glycosylated α chain (Fc ε RIα), β chain and two disulfide linked γ chains. Fc ε RIα is exposed to the outer surface of the cell and contains the IgE binding site. Expression of IgE Fc RI mRNA appears to be highly specific and has been identified in mast cells and IL-3 dependent myeloid-monocyte precursor. Alternative splicing of the genomic transcript for the α chain has also been identified.

REFERENCES

1. Hackel, W., et al. 1968. Foreign body as cause of a large urethral calculus and diverticulum formation. Z. Urol. Nephrol. 61: 827-829.
2. Shimizu, A., et al. 1988. Human and rat mast cell high-affinity immunoglobulin E receptors: characterization of putative α chain gene products. Proc. Natl. Acad. Sci. USA 85: 1907-1911.
3. Le Coniat, M., et al. 1990. The human genes for the α and γ subunits of the mast cell receptor for immunoglobulin E are located on human chromosome band 1q23. Immunogenetics 32: 183-186.
4. Pang, J., et al. 1993. Characterization of the gene for the human high affinity IgE receptor (Fc ε RI) α chain. J. Immunol. 151: 6166-7614.
5. Gyimesi, E., et al. 2004. Basophil CD63 expression assay on highly sensitized atopic donor leucocytes-α useful method in chronic autoimmune urticaria. Br. J. Dermatol. 151: 388-396.
6. Taube, C., et al. 2004. Mast cells, Fc ε RI, and IL-13 are required for development of airway hyperresponsiveness after aerosolized allergen exposure in the absence of adjuvant. J. Immunol. 172: 6398-6406.
7. SWISS-PROT/TrEMBL (P12319). World Wide Web URL: http://www.expasy.ch/sprot/sprot-top.html

CHROMOSOMAL LOCATION

Genetic locus: FCER1A (human) mapping to 1q23.2.

SOURCE

Fc ε RIα (H-90) is a rabbit polyclonal antibody raised against amino acids 116-205 mapping within an N-terminal extracellular domain of Fc ε RIα of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

Fc ε RIα (H-90) is recommended for detection of Fc ε RIα of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Fc ε RIα siRNA (h): sc-45258, Fc ε RIα shRNA Plasmid (h): sc-45258-SH and Fc ε RIα shRNA (h) Lentiviral Particles: sc-45258-V.

Molecular Weight of Fc ε RIα: 60 kDa.

Positive Controls: A549 cell lysate: sc-2413.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

SELECT PRODUCT CITATIONS

1. Wang, J., et al. 2014. IgE actions on CD4+ T cells, mast cells, and macrophages participate in the pathogenesis of experimental abdominal aortic aneurysms. EMBO Mol. Med. 6: 952-969.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.